

Notice of Allowability

Application No.

10/800,739

Examiner

Kuen S. Lu

Applicant(s)

XIE ET AL.

Art Unit

2167

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 3/16/2004.
2. ☒ The allowed claim(s) is/are 1-40.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
- * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|---|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date <u>9/11/2006</u> . |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

DETAILED ACTION

1. This Action is responsive to the application filed March 16, 2004. After a thorough search and examination of the present application and, in light of a telephone interview conducted September 11, 2006 and the prior art made of record, Claims 1-40 are allowed.

Priority

2. Applicant's claim for the benefit of a prior-filed application, 60/500,461 filed September 5, 2003, under 35 U.S.C. 119(e) or under 35 U.S.C. 120, 121, or 365(c) is acknowledged.

Drawings

3. The drawings filed September 5, 2003 are accepted.

Examiner's Amendments

4. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this Examiner's amendment, listed below, was given in a telephone interview with Mr. Chadwick Jackson (Registration Number 46,495) on September 11, 2006. The interview summary is attached.

Please amend claims 1 and 22 as follow:

1. (Currently Amended) In a database management system, a system for handling geographic raster data comprising:

a first data table including a plurality of GeoRaster objects, each GeoRaster object including a spatial extent geometry and associated metadata, the spatial extent geometry identifying a footprint of a geographic raster data object and associated with at least one block of raster data;

a second data table including a plurality of raster objects, each raster object associated with one block of raster data of a GeoRaster object and including information indicating a spatial extent of the block of raster data and information relating to the block of raster data;

a first spatial index built on the first data table based on the spatial extent geometry of each of the plurality of GeoRaster objects, the first spatial index operable to retrieve a GeoRaster object from the first data table based on a relative spatial location of the GeoRaster object; ~~and~~

a primary key index built on the second data table based on the information relating to the block of raster data, the index operable to retrieve a raster object from the second data table based on the information relating to the block of raster data associated with the retrieved raster object; and

a viewer operable to display at least a GeoRaster object.

22. (Currently Amended) In a database management system, a computer-implemented method of workflow for handling geographic raster data comprising the steps of:

creating, initializing, and validating a first data table including a plurality of GeoRaster objects, each GeoRaster object including a spatial extent geometry and associated metadata, the spatial extent geometry identifying a footprint of a geographic raster data object and associated with at least one block of raster data;

creating a second data table including a plurality of raster objects, each raster object associated with one block of raster data of a GeoRaster object and including information indicating a spatial extent of the block of raster data and information relating to the block of raster data;

creating a first spatial index built on the first data table based on the spatial extent geometry of each of the plurality of GeoRaster objects, the first spatial index operable to retrieve a GeoRaster object from the first data table based on a relative spatial location of the GeoRaster object; and

creating a primary key index built on the second data table based on the information relating to the block of raster data, the index operable to retrieve a raster object from the second data table based on the information relating to the block of raster data associated with the retrieved raster object; and

displaying at least a GeoRaster object.

Reasons For Allowance

5. The following is an examiner's statement of reasons for allowance:

Concerning geographical information application, it is costly to build and maintain spatial information system infrastructures. It is also very cumbersome and time consuming to acquire and manipulate spatial information, and integrating raster data with geo-spatially

referenced data in a geographical information system. In the instant application, the approach described in the claimed subject matter of independent claims 1 and 22 is novel by creating a new named data type **GeoRaster** as a higher logical layer to integrate and store raster data, geospatial referenced data and metadata in a single object.

A thorough search for the prior arts on EAST database and on domains (NPL-ACM, Google.com, NPL-IEEE) has been conducted. The prior arts searched and investigated in the database and domains does not fairly teach or suggest the teaching of the claimed subject matter of **GeoRaster** object as described above and reflected by the combined elements in each of the independent claims 1 and 22.

The dependent claims in the groups (2-21) and (23-40), depending claims 1 and 22, respectively, also distinct from the prior art for the same reason.

6. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Contact Information

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kuen S Lu whose telephone number is (571) 272-4114. The examiner can normally be reached on Monday-Friday (8:00 am-5:00 pm). If attempts to reach the examiner by telephone pre unsuccessful, the examiner's Supervisor, John Cottingham can be reached on (571) 272-7079. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for Page 13 published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 886-217-9197 (toll free).

Kuen S. Lu, 

Patent Examiner, Art Unit 2167

September 12, 2006


JOHN COTTINGHAM
SUPERVISORY PATENT EXAMINER
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